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HELPFUL HINTS TO HOG RAISERS

By C. M. VESTAL

The swine industry of the Pacific Coast states recently rose to the most secure position in its history, when by an agreement the United States Food Administration and the packers stabilized the prices of market hogs. The agreement reads as follows:

The food administration deems it imperative that steps be taken to increase hog production on the Pacific Coast. In order that producers may have confidence that pigs farrowed this spring may be marketed at a fair price, the administration hereby adopts the following minimum policy for the period during which similar minimums are in force in the Middle West; the average price of packing hogs bought by packers at the terminal points of San Francisco, Los Angeles, Portland, Oakland, San Diego, Seattle, South San Francisco, Spokane and Sacramento will not be less than 1 cent under the food administration minimum effective on the Chicago market (such Chicago minimum now \$15.50 per hundred). Any packer may make it a condition for the maintenance of the minimum that he shall charge any loss through condemnation by Federal or municipal inspection to the raiser or shipper.

Among the packers who signed the agreement are: Western Meat Company, San Francisco; Cudahy Packing Company, Los Angeles; Roth-Blum Packing Company, San Francisco; C. Swanton & Son, Sacramento; Armour & Co., Spokane; Union Meat Company, Portland; Universal Packing Company, Fresno; Chas. S. Hardy Packing Company, San Diego; Hauser Packing Company, Los Angeles; Oakland Meat Company, Oakland; Miller & Lux, Inc., San Francisco; Wilson & Co., Los Angeles; South San Francisco Packing Co., South San Francisco; Moran & Co. San Francisco & Co., San Francisco.

The present urgent demand for increased pork production and the assurance of good prices will cause increased effort on the part of the regular producers and will bring into the business many who have had little or no experience in raising and marketing hogs.

Therefore, a few pointers are here suggested for the purpose of stimulating interest and giving aid to those engaged in the business.

ON FEEDING, CARE AND MANAGEMENT

Little capital is required to produce a few hogs and the profit comes quickly.

There is a place on every farm for at least one sow and her pigs, because there is waste feed that they will consume. Preventing waste and producing pork is doing double service.

Careful Management and feeding of brood sows and pigs is the way in which the wise hog grower doubles his chances of a good profit in finished hogs.

Hogs are good scavengers but don't force them to prove it. Give them a chance to prove it.

Raise two crops of pigs a year. It is a common practice in eastern and central states. California conditions are more favorable than those of the east for this practice.

Use the best boar that you can secure.

Have the sows in gaining condition but not fat at breeding time.

Feed the pregnant sows well but don't get them too fat. Liberal feeding of alfalfa hay, alfalfa meal, or wheat bran, with some grain, helps to prevent over-fatness, furnishes protein, saves grain, and keeps the bowels in good condition.

Plenty of exercise helps to prevent excessive fatness in brood sows, keeps the boar in good condition, and assures good growth in well-fed pigs. Arrange pens, feed troughs, and sleeping quarters so that some exercise must be taken. Hogs on pasture usually get plenty of exercise.

Provide clean, comfortable quarters for the brood sow, especially at farrowing time. Individual houses are cheap and handy to move about. (If you want plans write to the Agricultural Experiment Station, Berkeley, California.)

Arrange to have the sows farrow early. The early pigs usually have the advantage of a better market.

Give sows that are suckling pigs plenty of milk-producing feed. The cheapest gains are made by young pigs.

Feeder pigs can usually be raised cheaper than they can be bought.

Make a creep or separate pen for the pigs that are about three weeks old. They are then ready to eat some solid feed. A mixture of ground grain and wheat middlings, made into a thin slop with skim

milk is one of the best. Avoid barley hulls, oat hulls, bran and rough bulky feeds. Ground oats and barley are good if the hulls are sifted out. Do not over-feed but feed often, say three times a day, just what they will clean up.

Save the best gilts and breed them to a good pure-bred boar. This is the best method of building up a good producing herd. Keep the sows that prove to be the most profitable producers.

Boar pigs which are intended for market should be castrated while they are small, usually before weaning. This is the easiest way and is best for the pigs.

Indian corn is the best fattening grain for hogs. Barley, milo, and kafir are 90 to 95 per cent as efficient as Indian corn. They all need supplementing with a protein feed.

Tankage, wheat middlings, cocoanut meal, linseed meal, soybeans, skim milk and buttermilk are some of the best protein supplements to use with barley, milo, corn and other low-protein grains. Of the forage crops, alfalfa, clover, soybeans, cowpeas, and rape are the best for supplying protein.

Barley, wheat, rye, mile, kafir, and other small grains should be ground or rolled. Soaking serves the same purpose with barley, wheat, and rye, but is not so good with the sorghum grains.

Soaking ground grain is unnecessary. Fresh slops are usually safer than those which have stood for some time, especially in warm weather.

It doesn't pay to cook feed for hogs. In many cases the feeds are made less valuable. Potatoes and beans are, however, improved by cooking.

Pumpkins may be grown as an extra crop. They are fine for brood sows suckling fall litters.

Forage crops cheapen production. Alfalfa, clover, rape, soybeans, wheat, barley, and rye pastures are some of the good ones. Alfalfa ranks at the top.

Pasture crops give the pigs a good start but it takes grain to finish them.

Young growing pigs should never be forced to live on pasturage without grain. Give them at least two pounds of grain for each 100 pounds body weight.

Alfalfa pasture saves from 15 to 20 per cent of the grain for fattening hogs. It saves a great deal more for brood sows and young breeding stock.

Feeding alfalfa hay in racks is good practice when the pasture is gone. Try this for the brood sows. Feed cattle and sheep the coarse stems left in the racks. Nothing is then wasted.

Afalfa meal fed to breeding hogs helps to save high-priced grain. Don't force them to eat too much of it. It is bulky and hard to digest. One-fourth to one-third, by weight, of the ration is about right.

Don't feed milk from tuberculous cows. The percentage of hogs condemned is twice as high in California as in eastern states. Boil the milk if you are not sure. Help get rid of the tuberculous cows.

It requires five or six pounds of skim milk to equal one pound of grain for hog feeding. Whey is worth about half as much as skim milk. Buttermilk not diluted is equal to skim milk.

Sour skim milk gives the same results as sweet skim milk in hog feeding.

Skim milk has its highest feeding value when fed in limited quantities with grain or mill feed. Three or four pounds of skim milk to one pound of grain is the best proportion for shoats. Four to six pounds is better for small pigs, as they need more protein.

The hog is the cheapest producer of animal fat. Don't send him to market in thin condition. It doesn't pay.

The most desirable market weights are between 200 and 250 pounds. Good hogs should be ready for market at these weights when six to eight months old.

The most profitable gains are made by the young pigs. It pays to give them a chance to get to market early.

A well-filled self-feeder and a thrifty shoat make a combination which is hard to beat for quick returns, large profits, little labor and diminished risk.

Don't be afraid to turn a hungry pig to a self-feeder. He may make a hog of himself, but it won't hurt him if he is intended for market.

Self-fed hogs should always have an abundance of good drinking water if best results are desired. This rule applies to other hogs as well.

Tankage and wheat middlings are the best protein feeds to use with the grains in a self-feeder. Cocoanut meal may also be used with success but it is not so palatable as the other feeds.

Self-feeding breeding hogs is not a good practice unless the feed is made bulky enough to insure a limited consumption of grain.

Alfalfa meal may be mixed with grain for this purpose, but it usually does not work well in a self-feeder.

Good thrifty pigs weighing from fifty to seventy-five pounds may be made ready for market in ninety or one hundred days if fed the self-feeder way.

Salt should be either available at all times or given once or twice a week. Feeding salt with the charcoal mixture is a good plan.

ON DISEASES AND PARASITES AND THEIR CONTROL

Eliminate the lice. Lousy hogs waste valuable feed. Crude oil applied to the backs of the hogs with a brush will kill the lice. Dipping or spraying with a coal-tar solution and repeating in eight or ten days is another method. (Use a good brand of coal-tar stock dip. Directions for making solutions are usually printed on the containers. A 2 per cent solution is about right.)

Keep the sleeping quarters clean and well disinfected. Burn old bedding or immediately haul it to some place where the hogs cannot reach it. Spray quarters with a 3 per cent coal-tar solution. Lime is also good if scattered about the lots and pens.

Keep lots, feed troughs, and watering places in sanitary condition.

Get rid of intestinal worms. The following remedies are good:

- 1. Turpentine is a common remedy and is easily obtained. Dose, one teaspoonful for every 80 or 100 pounds live weight. Give daily in milk emulsion for three mornings. Mornings are best because the digestive tract is nearest empty at that time. Follow with a dose of easter oil.
- 2. Withhold all feed and water for twenty-four hours, then give each pig one to two ounces of castor oil to which has been added oil of American wormseed as follows: Pigs weighing less than 50 pounds one-half teaspoonful; pigs weighing from 50 to 100 pounds one teaspoonful; large hogs, two teaspoonfuls.
- 3. Santonin, three to five grains, calomel, five to eight grains for each hundred pounds of live weight. For small pigs give the large dose per 100 pounds. For pigs weighing 100 pounds or more, give the small dose. Mix with morning feed. Better results are secured if a few hogs are treated at a time, because of a more even distribution of the drugs.

Prevent worms and disease by keeping the hogs in a good healthy condition. Keeping their surroundings sanitary is the best method.

Conditioners are also beneficial. A good conditioner may be made as follows:

Charcoal	1/2	sack or	1	bushel
Wood ashes		sack or		
Salt	8	pounds		
Air-slacked lime		pounds		
Sulphur		pounds		
Pulverized copperas		pounds		

Mix and put in self-feeder. Allow the hogs free access to the mixture. At least, give the hogs charcoal, ashes, and salt.

If the pigs have thumps reduce their feed and give them more exercise. Prevent thumps by plenty of exercise and careful feeding.

When the young pigs scour, reduce the sow's feed. If they are running on grass, shut them up for a few days. Keep the beds and pens clean and dry. Let in plenty of sunshine.

If the sow is feverish give her two or three ounces of castor oil. If the pigs continue scouring, give them one to two grains of calomel followed with one-half ounce of castor oil. A few drops of laudanum may be used in acute cases of scours.

Good feed, exercise, and sanitary conditions constitute the right mixture in preventive treatment. Preventive treatment is the right treatment for scours.

Don't feed soured grain feed or let feed sour in the troughs. It causes digestive disorders and scours, especially in small pigs.

Vaccinate against cholera. It may keep you from losing faith in the hog business. (For hog cholera serum and virus apply to the Veterinary Division, University of California, Berkeley, California.)

GESTATION CALENDAR FOR SOWS*

Date	of	Due	to	Date of		Due	to
Serv	ice	Fari	ow	Service		Farr	οw
Jan.	1	Apr.	22	Mar. 2		"	21
"		6.6	27			"	26
"	11	May	2	" 12	·	July	1
66	16		7	" 17	,	"	6
"			12	" 22	/	"	11
"	23		17	" 27	***************************************	66	16
"	31		22			"	21
Feb.	5		27	. "6		"	26
66	10	June	1	" 11		"	31
66	15		6	" 16		lug.	5
66	20		11	" 21		"	10
6.6	25		16	" 26		"	15

Date	of Due	e to	Date o	f Due to
Serv	ice Far	row	Service	e Farrow
May	1 ''	20	Sept.	3
"	6	25	"	8
"	11	30	"· · · · · 1	3Jan. 2
"	16Sept.	4	"]	18 '' 7
"	21	9	" 2	23 12
"	26	14	" 9	28
"	31 ''	19	Oct.	3 " 22
June	5	24	"	8 " 27
	10 "	29	" 1	3Feb. 1
"	15Oct	4	" 1	8 '' 6
"	20	9	" 9	23 '' 11
"	25	14	" 9	28
"	30	19	Nov.	2
July	5Oct.	24	"	7
"	10 "	29	" 1	2Mar. 3
"	15Nov.	3	" 1	
"	20	8	" 2	22
6.6	25	13	" 9	28 '' 18
"	30	18	Dec.	2 " 23
Aug.	4	23	"	7
"	9	28	"	12Apr. 2
"	14Dec.	3	"]	" 7
"	19	8	" 9	22
"	24	13	" 2	27 '' 17
"	29	18	" {	31 '' 21

ON LITERATURE AND INFORMATION

Send your questions "about hogs" to the Animal Husbandry Division, University Farm, Davis, California.

The following bulletins and circulars are available:

Publications of the California Agricultural Experiment Station:

- "Feeding and Management of Hogs," Circular 151.
- "Hog Cholera Prevention and Serum Treatment," Circular 176.

Write to the Agricultural Experiment Station, Berkeley, California.

Publications of the United States Department of Agriculture:

- "Swine Management," Farmers' Bulletin 874.
- "Breeds of Swine," Farmers' Bulletin 765.
- "Hog Houses," Farmers' Bulletin 438.
- "Self-Feeders for Hogs," Farmers' Bulletin 906.
- "Killing Hogs and Curing Pork," Farmers' Bulletin 913.
- "Castration of Pigs," Farmers' Bulletin 780.
- "Tuberculosis in Hogs," Farmers' Bulletin 781.
- "Hog Cholera: Prevention and Treatment," Farmers' Bulletin 834.

Write to the Division of Publications, U. S. Department of Agriculture, Washington, D. C.

^{*} Based on an average gestation period of 112 days.

STATION PUBLICATIONS AVAILABLE FOR FREE DISTRIBUTION

BULLETINS

230.	Enological	Investigations.
242.	Humus in	California Soils.

250. The Loquat.

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251. Utilization of the Nitrogen and Organic Matter in Septic and Imhoff Tank Sludges.

Sludges.

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257. New Dosage Tables.

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267. Experiments with Stocks for Citrus.
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271. Feeding Dairy Calves in California.
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273. Preliminary Report on Kearney Vine-yard Experimental Drain.

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fornia. The Pomegranate. 277. Sudan Grass. 278. Grain Sorghums.

279. Irrigation of Rice in California. 280. Irrigation of Alfalfa in the Sacramento

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282. Trials with California Silage Crops for Dairy Clows.
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284. Irrigation of Alfalfa in Imperial Valley.
286. Commercial Fertilizers.
288. Potash from Tule and the Fertilizer Value of Certain Marsh Plants.
290. The June Drop of Washington Navel

Oranges. 291. The Common Honey Bee as an Agent in Prune Pollination. (2nd report.)
292. Green Manure Crops in Southern Cali-

fornia.

293. Sweet Sorghums for Forage. 294. Bean Culture in California. 295. Fire Protection for Grain Fields. 296. Topping and Pinching Vines.

CIRCULARS

No.
113. Correspondence Courses in Agriculture.
114. Increasing the Duty of Water.
115. Grafting Vinifera Vineyards.
124. Alfalfa Silage for Fattening Steers.
126. Spraying for the Grape Leaf Hopper.
127. House Funigation.
128. Insecticide Formulas.
129. The Control of Citrus Insects.
131. Spraying for Control of Walnut Aphis.
133. County Farm Adviser.
135. Official Tests of Dairy Cows.
136. Melilotus Indica. No.

136.

Melilotus Indica.
Wood Decay in Orchard Trees.
The Silo in California Agriculture.
The Generation of Hydrocyanic Acid
Gas in Fumigation by Portable Ma-137. 138. 139.

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140. The Practical Application of Improved Methods of Fermentation in Califor-nia Wineries during 1913 and 1914. 142. Practical and Inexpensive Poultry Ap-

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176. Hog Cholera Prevention and the Serum Treatment.

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Squirrel.

182. Extending the Area of Irrigated Wheat in California for 1918.

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187. Utilizing the Sarshums

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199. Onion Growing in California.
200. Growing the Fall or Second Crop of Potatoes in California.
201. Helpful Hints to Hog Raisers.